

MATHEMATICS (ACT MARKING CENTRE)

	Word	Comment										
1. 320 $\times 3$ <u>$960\checkmark$</u>	B2	For 960										
2. 1943 One thousand, nine hundred forty - three.	B2	For One thousand, nine hundred forty - three.										
3. $-7 - 6 = -10$, Mtd ii $(-4 + 6)$ -10	B2	For -10										
Mtd iii A number line starting at -5 and ending at +6. It has tick marks at -5, -4, -3, -2, -1, 0, +1, +2, +3, +4, +5, +6. There are two arrows above the line: one pointing right labeled '+6' and one pointing left labeled '-4'. Below the line, there is a double-headed arrow labeled '-10'.												
4. $2, 3, 6, 12, 24, 37\checkmark$ $+1 \quad +3 \quad +6 \quad +10 \quad +15\checkmark$	B1	For 37										
	B1	For correct pattern										
5. $2^n - 1 = 31\checkmark$ $2^n - 1 + 1 = 31 + 1$ $2^n = 32$ <table border="1"> <tr> <td>2</td> <td>32</td> </tr> <tr> <td>2</td> <td>16</td> </tr> <tr> <td>2</td> <td>8</td> </tr> <tr> <td>2</td> <td>4</td> </tr> <tr> <td>2</td> <td>2</td> </tr> </table>	2	32	2	16	2	8	2	4	2	2	m1	For correct formation of an equation.
2	32											
2	16											
2	8											
2	4											
2	2											

6

$$\text{Simple interest} = P \times R \times T$$

$$\text{Sh. } 250,000 \times \frac{5}{100} \times 6$$

mi

For correct substitution.

$$\text{Sh. } 2500 \times 5 \times 6$$

$$\text{Sh. } 75,000 \checkmark$$

A1

For Sh. 75,000

7 Number of pictures.

$$\left(\frac{25}{\$} \right) \text{ pictures}$$

$$5 \text{ pictures } \checkmark$$

B1 For 5 pictures



B1 For correct diagrams

	Award	Comments
\$	(3p+6) - 2(3p-3) ✓ 3p+6 - 2p+3 3p - 2p + 6 + 3 p+9 ✓ A1	M1 For introducing brackets A1 For p+9 or 9+p
9	Amount Sh. 1250 (26755 - 26745) Sh. 1250 x 10 ✓ Sh. 12500 ✓ or No. of units 26755 - 26745 _____ 10 units ✓	B1 For 10 units or 10 B1 For Sh. 12500
8	Sh. 1250 x 10 Sh. 12500 ✓	✓ B1
10	6:35pm ✓ 25 minutes to 7 P.M. 25 minutes to 7 in the afternoon.	B2 For 6:35 P.M. 25 minutes to 7 P.M. 25 minutes to 7 in the afternoon.

$$\begin{aligned}
 11. \text{ Arc } AB &= \frac{1}{2} \pi d \\
 &= \frac{1}{2} \times \frac{\pi}{\text{ft}} \times \frac{11}{\text{ft}} \checkmark \\
 &= 11 \times 11 \\
 &= 121 \text{ m } \checkmark
 \end{aligned}$$

m1

For correct subtraction.

A1

For 121 m Accept 121

Reject Wrong units

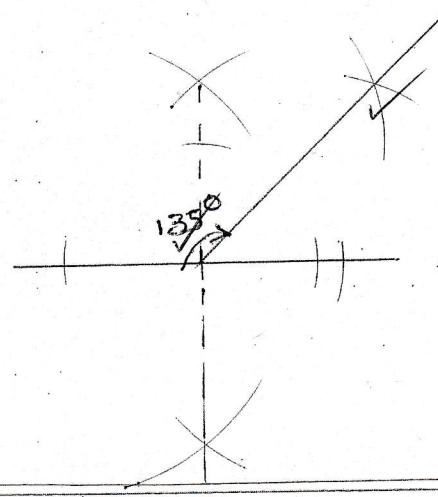
$$\begin{aligned}
 12. (3 \times 10 \times 10 \times 10) + (4 \times 10) + (2 \times 1) + \left(1 \times \frac{1}{100}\right) + \left(5 \times \frac{1}{1000}\right) \\
 3000 + 40 + 2 + 0.01 + 0.005 \text{ m1} \\
 3042.015 \checkmark
 \end{aligned}$$

for addition of values.

A1

For 3042.015

13



B1

For arcs leading to 135°.

B1

For indicating 135° in a correct position.

$$4 - \frac{2m}{3} < 6$$

$$(4x3) - \left(\frac{2m}{3} \times 3\right) < 6 \times 3 \checkmark$$

$$\frac{12 - 2m}{3} < 18$$

$$12 - 2m < 18$$

$$12 - 12 - 2m < 18 - 12$$

$$-2m < 6$$

$$\frac{-2m > 6}{-2}$$

$$m > -3 \checkmark$$

m1

For correct removal of brackets.

A1

Form $m > -3$ from a correct method.

15. 6 days require 4 men.
 1 day requires (6×4) men
 4 days require $\frac{(6 \times 4)}{4}$ men
 6 men. ✓

Difference

$$6 - 4 = 2 \text{ more men.} \checkmark$$

B1 For 6 men.

B1 For 2 more men.
 Accept 2 and 6
 Reject Wrong units

16 CL

$$\begin{matrix} CL \\ \downarrow \\ \downarrow \\ 100 \ 50 \end{matrix}$$

$$\begin{aligned} CL &= 100 + 50 \\ &= 150 \checkmark \end{aligned}$$

B1 For 150

$$\begin{array}{r} 150 \\ + 50 \\ \hline 200 \checkmark \end{array}$$

B1 FOF 200

17 $10 \text{ m/s} = \frac{10 \text{ km}}{1000} \div \frac{1 \text{ h}}{3600} \checkmark$

m1 For division

$$\frac{10 \text{ km}}{1000} \times \frac{3600}{1 \text{ h}}$$

$$36 \text{ km/h} \checkmark$$

A1 For 36 km/h

or

$$\left(\frac{10}{1000} \times 3600 \right) \text{ km/h}$$

$$36 \text{ km/h}$$

or

$$1 \text{ m} = \frac{1}{1000} \text{ km}$$

$$\begin{aligned} 10 \text{ m} &= \left(\frac{1}{1000} \times 10 \right) \text{ km} \\ &= \frac{1}{100} \text{ km.} \end{aligned}$$

18 Sample space = {1, 2, 3, 4, 5, 6}

Events = {1, 4} ✓

$$\text{Probability} = \frac{n(E)}{n(ss)}$$

$$= \frac{2}{6} \checkmark$$

B1 For 1 identifying square numbers.

B1 For $\frac{2}{6}$

18 $\left(\frac{5\phi \times 3\phi}{10\phi \phi} \right)$ litres ✓

$$5 \times 3$$

$$15 \text{ litres } \checkmark$$

m1 For correct division

A1 For 15 litres

20 $3d + 2d + d = 360^\circ \checkmark$

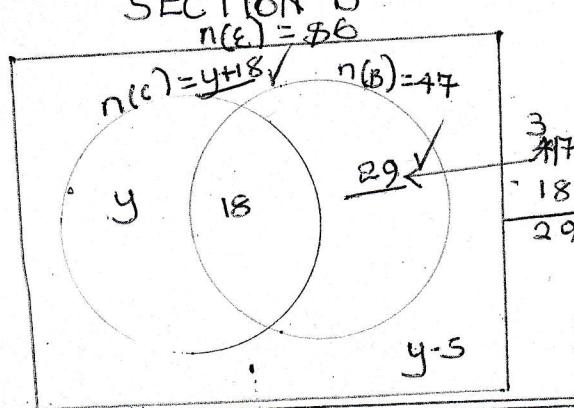
$$\frac{\phi d}{\phi} = \frac{360^\circ}{\phi}$$

$$d = 60^\circ \checkmark$$

m1 Formation of correct inform equation.

A1 For 60°

21



B1 For 29 or $47-18$

B1 For $y+18$

b. $y + 18 + 19 + y - 5 = 86 \checkmark$

$$y + y + 18 + 19 - 5 = 86$$

$$2y + 47 - 5 = 86$$

$$2y + 42 - 42 = 86 - 42$$

$$= \frac{22}{2}$$

$$\frac{2y}{2} = 22 \checkmark$$

m1 For correct equation

A1 For 22

c. $n(C) = y+18 \quad | \quad C = y+18$

$$= 22 + 18$$

22	Sugar	Nomi	Toilet paper	Tooth		
	Sh. 3800 x 2 Sh. 7600 ✓	$\frac{500 \times 300}{100}$ 500 x 6 ✓ Sh. 3000	Sh. 1000 $\frac{1000}{100} \times 3$ Sh. 1000 x 3 Sh. 3000	Sh. 540	B1	FOR sh. 7600
					B1	FOR sh. 3000
					B1	FOR sh. 3000
	Total Sh. 7600 Sh. 3000 Sh. 3000 + Sh. 5400				B1	FOR Sh. 19,000
	<u>Sh. 19,000</u>				B1	FOR 95% or 950
	100% - 5% = 95% ✓				B1	FOR Sh. 18,050
	$\frac{95}{100} \times 19000$ 95 x 190 Sh. 18050 ✓					
23	In one hour -					
	Tap A fills $\frac{1}{6}$					
	Tap B fills $\frac{1}{12}$					
	Tap C fills $\frac{1}{4}$					
	$\frac{1}{6} + \frac{1}{12} + \frac{1}{4}$					
	$\frac{2+1+3}{12}$					
	$\frac{6}{12}$ ✓				B1	FOR $\frac{6}{12}$ or $\frac{1}{2}$
	$1 \div \frac{1}{12}$					
	1×12				B1	FOR 2 hours
	2 hours ✓					

b	$1h \rightarrow 500 \text{ litres}$ $2h \rightarrow (500 \times 2) \text{ litres} \checkmark$ $1000 \text{ litres. } \checkmark$		m For multiplication A For 1000 litres
c	$\begin{array}{r} 1h \text{ Min} \\ 9^0 \quad 15+60 \\ \hline 7 \quad 45 \\ \hline 1 \quad 30 \end{array} \checkmark$ 1 hour 30 minutes		B For 1 hour 30 minutes. $1\frac{1}{2}$ hours or 90 minutes
d	$\begin{array}{r} 1h \text{ min} \\ 9 \quad 35 \\ + 00 \quad 00 \\ \hline 09 \quad 35 \end{array} \checkmark$ 09 35 hours.		B For 09 35 hours Accept 09:35 hours Reject 9 35 hours 09:35
e	$\begin{array}{r} 1h \text{ Min} \\ 4^0 \quad 15+60 \\ \hline 7 \quad 45 \\ \hline 3 \quad 30 \end{array} \checkmark$ $\begin{array}{r} 3\frac{1}{2} \\ 2\frac{1}{2} \\ \hline 3\frac{1}{2} \end{array}$ 3 $\frac{1}{2}$ hours, \checkmark		B For $3\frac{1}{2}$ hours.
	$\text{Avg speed} = 210 \text{ km} \div 3\frac{1}{2} \text{ h}$, \checkmark $= 210 \text{ km} \times \underline{2} \text{ h}$ $\quad \quad \quad \cancel{7}$ $= 30 \text{ km} \times 2 \text{ h}$ $= 60 \text{ km/h. } \checkmark$	m For division A For 60km/h.	

25	a) ext \angle $180^\circ - 120^\circ$ $60^\circ \checkmark$	No. of sides $\frac{360^\circ}{60^\circ} = 6$ 6 sides \checkmark	B1	For 60°
	Regular Hexagon \checkmark		B1	For 6 sides
			B1	For Regular Hexagon / Hexagon

b)	Int \angle sum = $180^\circ(n-2)$ $180^\circ(6-2) \checkmark$ 180×4 $720^\circ \checkmark$	m1	For correct substitution or For multiplication
	or Int \angle sum = Int $\angle \times$ No. of sides = $120^\circ \times 6 \checkmark$ = 720°	A1	For 720°

26	Byanigaba Byanhanga Mbabazi Total y 2y y+50 130	m1	
	$y + 2y + y + 50 = 130 \checkmark$	m1	For correct equation
	$4y + 50 = 130$	m1	For final collection of like terms
	$4y + 50 - 50 = 130 - 50$		
	$\frac{4y}{4} = \frac{80}{4}$		
	$y = 20$	A1	For 20
	∴ $y = 20$ cattle		

OR

Byanuhanga Byanigaba Mbabazi Total k $\frac{1}{2}k$ $\frac{1}{2}k + 50$ 130	m1		
$2k + \frac{1}{2}k + \frac{1}{2}k + 50 \times 2 = 130 \times 2 \checkmark$	m1	For correct equation	
$2k + 2k + 100 = 260$			
$4k + 100 - 100 = 260 - 100$			
$\frac{4k}{4} = \frac{160}{4}$			
$k = 40 \checkmark$	A1	For 40	
Byanigaba = $\frac{1}{2}k$ = $\frac{1}{2} \times 40$ = 20 cattle \checkmark	B1	For 20	

2b) 1 cattle costs Sh. 1,050,000
 40 cattle cost $40 \times 1,050,000$
 Sh. 42,000,000 ✓

m1
A1

For multiplication
 For Sh. 42,000,000

27) $C = \pi d$
 $= \frac{22}{7} \times \frac{10}{100} \text{ cm}$
 $= 22 \times 10 \text{ cm}$
 $= 220 \text{ cm} \checkmark$

B1

For 220cm or 0.0022km

1.4km to cm
 $\frac{14}{10} \times 100,000$
 10
 $140,000 \text{ cm} \checkmark$

B1 For 140,000 cm or $\frac{220}{100,000}$

No of revolutions.

$\frac{140,000}{220}$ ✓

m1

For division

2000 revolutions. ✓

A1

For 2000 revolutions

28a)

B1

For correct plotting of point E.

B1

For correct plotting of point F.

B1

For correct plotting of point G.

B1

For correct plotting of point H.

b)

J1

For Joining

c)

B1

For Trapezium

29 $203p = 35 + \text{ten}$

Soln.

$$(2 \times p^2) + (0 \times p) + (3 \times p^0) = 35 \quad m_1$$

$$2p^2 + 0 + 3 = 35$$

$$2p^2 + 3 = 35$$

$$2p^2 + 3 - 3 = 35 - 3$$

$$\frac{2p^2}{2} = \frac{32}{2}$$

$$p^2 = 16$$

$$\sqrt{p^2} = \sqrt{16} \quad m_1 \text{ For root symbol}$$

$$p = 4 \quad A_1 \text{ For } 4$$

For expansion

b. $(0.9 \times 47) - (0.9 \times 17)$

Soln.

$$0.9(47 - 17) \quad m_1 \text{ For Factorising}$$

$$0.9 \times 30$$

$$\begin{array}{r} 9 \\ \times 30 \\ \hline 10 \end{array}$$

$$9 \times 3$$

$$27 \quad A_1 \text{ For } 27$$

30

8	1	<u>Y 6</u>
W 3	5	7
X 4	9	1 2

$$\text{Magic sum} = 1 + 5 + 9$$

$$= 6 + 9$$

$$= 15 \quad \checkmark$$

$$B_1 \text{ For } 15$$

$$W = 15 - (5+7)$$

$$= 15 - 12$$

$$= 3 \quad \checkmark$$

$$Y = 15 - (8+1)$$

$$= 15 - 9$$

$$= 6 \quad \checkmark$$

$$B_1 \text{ For } 6$$

$$B_1 \text{ For } 3$$

$$B_1 \text{ For } 2$$

$$B_1 \text{ For } 4$$

$$T = 15 - (6+7)$$

$$= 15 - 13$$

$$= 2 \quad \checkmark$$

$$X = 15 - (9+2)$$

$$= 15 - 11$$

$$= 4 \quad \checkmark$$

$$B_1 \text{ For } 2 \quad B_1 \text{ For } 4 \quad \text{For correct}$$

31) 0.00234×10

$0.00234 = 2.34 \times 10^{-3}$ ✓ B2

B2 For 2.34×10^{-3}

b. $\begin{array}{r} 2 & 3 & 4 & 1 \\ | & & 4 & \\ 4 \times 10 & & & \\ = 40 & & & \checkmark \end{array}$

2×1000

$2000 \quad \checkmark$

Quotient

$\begin{array}{r} 50 \\ 2000 \\ \hline \end{array}$

$\begin{array}{r} 40 \\ 50 \\ \hline \end{array}$ ✓

32)

b.

B1 For 40

B1 For 2000

B1 For 50

S1 For the correct sketch.

H1 For 5cm

C1 For 150° or $+149^\circ$ or 151°

L1 For 6cm

B1 For 96cm or 95m or 94m